

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2005/051269

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C07D471/04 A61K31/4745

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 03/014123 A (BUHR WILM ; ALTANA PHARMA AG (DE); SENN-BILFINGER JOERG (DE)) 20 February 2003 (2003-02-20) cited in the application the whole document	1-13
Y	US 4 468 400 A (PUCHALSKI CHESTER ET AL) 28 August 1984 (1984-08-28) cited in the application the whole document; in particular, column 3, lines 14-25; column 3, line 39 - column 4, line 10; and column 6, line 52 ----- -/--	1-13

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \* & \* document member of the same patent family

Date of the actual completion of the international search

24 August 2005

Date of mailing of the international search report

06/09/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Fink, D

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>KAMINSKI J J ET AL: "ANTIULCER AGENTS. 6. ANALYSIS OF THE IN VITRO BIOCHEMICAL AND IN VIVO GASTRIC ANTISECRETORY ACTIVITY OF SUBSTITUTE IMIDAZOL-2-PYRIDINES AND RELATED ANALOGUES USING COMPARATIVE MOLECULAR FIELD ANALYSIS AND HYPOTHETICAL ACTIVE SITE LATTICE METHODOLOGIES" JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 40, 1997, pages 427-436, XP000941533 ISSN: 0022-2623</p> <p>cited in the application</p> <p>the whole document; in particular, page 428, Figure 1; and page 429, table 2: cf. the compounds 1 and 4, and 6 and 10</p> <p>-----</p>	1-13

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2005/051269

**Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Although claim 13 is directed to a method of treatment of the human/animal body (Article 52(4) EPC), the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**BEST AVAILABLE COPY**  
**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International Application No  
**PCT/EP2005/051269**

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03014123	A	20-02-2003	AT 297931 T	15-07-2005
			BR 0211826 A	28-06-2005
			CA 2452803 A1	20-02-2003
			CN 1541219 A	27-10-2004
			DE 60204701 D1	21-07-2005
			WO 03014123 A1	20-02-2003
			EP 1419163 A1	19-05-2004
			HU 0500330 A2	28-07-2005
			JP 2005504761 T	17-02-2005
			MX PA04001277 A	27-05-2004
			NO 20040604 A	10-02-2004
			US 2005049272 A1	03-03-2005
			ZA 200400918 A	20-04-2005
<hr/>				
US 4468400	A	28-08-1984	NONE	
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**PCT REQUEST**

Print Out (Original in Electronic Form)

<b>0</b>	<b>For receiving Office use only</b>	
<b>0-1</b>	International Application No.	
<b>0-2</b>	International Filing Date	
<b>0-3</b>	Name of receiving Office and "PCT International Application"	
<b>0-4</b>	<b>Form - PCT/RO/101 PCT Request</b>	
<b>0-4-1</b>	Prepared Using	PCT Online Filing Version 3.50 (Build 0001.162)
<b>0-5</b>	<b>Petition</b> The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
<b>0-6</b>	<b>Receiving Office (specified by the applicant)</b>	European Patent Office (EPO) (RO/EP)
<b>0-7</b>	<b>Applicant's or agent's file reference</b>	1243WOORD01
<b>I</b>	<b>Title of invention</b>	7, 8, 9, 10-TETRAHYDRO-IMIDAZO[2,1-A] ISOCHINOLINES
<b>II</b>	<b>Applicant</b>	
<b>II-1</b>	This person is:	applicant only
<b>II-2</b>	Applicant for	all designated States except US
<b>II-4</b>	Name:	ALTANA PHARMA AG
<b>II-5</b>	Address:	Byk-Gulden-Str. 2 78467 Konstanz Germany
<b>II-6</b>	State of nationality	DE
<b>II-7</b>	State of residence	DE
<b>II-8</b>	Telephone No.	+49 - (0) 7531-84-5264
<b>II-9</b>	Facsimile No.	+49 - (0) 7531-84-5321
<b>II-10</b>	e-mail	DEKON.IPPA-DE@altanapharma.com

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III-1	<b>Applicant and/or inventor</b>	
III-1-1	This person is:	applicant and inventor
III-1-2	Applicant for	US only
III-1-3	Inventor for	AP: (BW GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW); EA: (AM AZ BY KG KZ MD RU TJ TM); EP: (AT BE BG CH&LI CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU MC NL PL PT RO SE SI SK TR); OA: (BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG); AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH&LI CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
III-1-4	Name (LAST, First)	PALMER, Andreas
III-1-5	Address:	Pirminweg 1a 78467 Konstanz Germany
III-1-6	State of nationality	DE
III-1-7	State of residence	DE
III-2	<b>Applicant and/or inventor</b>	
III-2-1	This person is:	inventor only
III-2-4	Name (LAST, First)	BREHM, Christof
III-2-5	Address:	Richentalstr. 8 78462 Konstanz Germany
III-3	<b>Applicant and/or inventor</b>	
III-3-1	This person is:	inventor only
III-3-4	Name (LAST, First)	CHIESA, M. Vittoria
III-3-5	Address:	Alpenstr. 5 78464 Konstanz Germany
III-4	<b>Applicant and/or inventor</b>	
III-4-1	This person is:	inventor only
III-4-4	Name (LAST, First)	ZIMMERMANN, Peter Jan
III-4-5	Address:	Zum Lerchental 43/1 78315 Radolfzell Germany

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III-5	<b>Applicant and/or inventor</b>	
III-5-1	This person is:	inventor only
III-5-4	Name (LAST, First)	BUHR, Wilm
III-5-5	Address:	Zum Kirchenwald 7 78465 Konstanz Germany
III-6	<b>Applicant and/or inventor</b>	
III-6-1	This person is:	inventor only
III-6-4	Name (LAST, First)	SIMON, Wolfgang-Alexander
III-6-5	Address:	Schubertstraße 17 78464 Konstanz Germany
III-7	<b>Applicant and/or inventor</b>	
III-7-1	This person is:	inventor only
III-7-4	Name (LAST, First)	KROMER, Wolfgang
III-7-5	Address:	Hinterhauserstr. 5 78464 Konstanz Germany
III-8	<b>Applicant and/or inventor</b>	
III-8-1	This person is:	inventor only
III-8-4	Name (LAST, First)	POSTIUS, Stefan
III-8-5	Address:	Austraße 4b 78467 Konstanz Germany
IV-1	<b>Agent or common representative; or address for correspondence</b>	
	The person identified below is hereby/ has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	agent
IV-1-1	Name (LAST, First)	WOLF, Ulrich
IV-1-2	Address:	c/o ALTANA Pharma AG, Byk-Gulden-Str. 2 78467 Konstanz Germany
IV-1-3	Telephone No.	+49(0)7531-84-5320
IV-1-4	Facsimile No.	+49(0)7531-84-5321
IV-1-5	e-mail	dekon.ippa-de@altanapharma.com
IV-1-6	Agent's registration No.	052382.9
IV-2	<b>Additional agent(s)</b>	additional agent(s) with same address as first named agent
IV-2-1	Name(s)	WILD, Robert (099982.1); KRATZER, Bernd (0955419); RUPP, Herbert (00052372.0);

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		<b>MECHNICH, Oliver (0099430) ; KROEGER, Bernd (0081260)</b>	
<b>V</b>	<b>DESIGNATIONS</b>		
<b>V-1</b>	The filing of this request constitutes under Rule 4.9(a), the designation of all Contracting States bound by the PCT on the international filing date, for the grant of every kind of protection available and, where applicable, for the grant of both regional and national patents.		
<b>VI-1</b>	<b>Priority claim of earlier regional application</b>		
VI-1-1	Filing date	<b>22 March 2004 (22.03.2004)</b>	
VI-1-2	Number	<b>04101167.7</b>	
VI-1-3	Regional Office	<b>EP</b>	
<b>VI-2</b>	<b>Priority document request</b>		
	The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) identified above as item(s):	<b>VI-1</b>	
<b>VII-1</b>	<b>International Searching Authority Chosen</b>	<b>European Patent Office (EPO) (ISA/EP)</b>	
<b>VII-2</b>	<b>Request to use results of earlier search; reference to that search</b>		
VII-2-1	Date	<b>02 June 2004 (02.06.2004)</b>	
VII-2-2	Number	<b>04101167</b>	
VII-2-3	Country (or regional Office)	<b>EP</b>	
<b>VIII</b>	<b>Declarations</b>	<b>Number of declarations</b>	
VIII-1	Declaration as to the identity of the inventor	<b>-</b>	
VIII-2	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent	<b>1</b>	
VIII-3	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application	<b>-</b>	
VIII-4	Declaration of inventorship (only for the purposes of the designation of the United States of America)	<b>1</b>	
VIII-5	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty	<b>-</b>	



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VIII-2-1	<b>Declaration: Entitlement to apply for and be granted a patent</b> Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate: Name (LAST, First)	in relation to this international application  ALTANA PHARMA AG is entitled to apply for and be granted a patent by virtue of the following:
VIII-2-1(i)		ALTANA PHARMA AG is entitled as employer of the inventor, BREHM, Christof
VIII-2-1(i)		ALTANA PHARMA AG is entitled as employer of the inventor, CHIESA, M. Vittoria
VIII-2-1(i)		ALTANA PHARMA AG is entitled as employer of the inventor, ZIMMERMANN, Peter Jan
VIII-2-1(i)		ALTANA PHARMA AG is entitled as employer of the inventor, BUHR, Wilm
VIII-2-1(i)		ALTANA PHARMA AG is entitled as employer of the inventor, SIMON, Wolfgang-Alexander
VIII-2-1(i)		ALTANA PHARMA AG is entitled as employer of the inventor, KROMER, Wolfgang
VIII-2-1(i)		ALTANA PHARMA AG is entitled as employer of the inventor, POSTIUS, Stefan
VIII-2-1(i)		ALTANA PHARMA AG is entitled as employer of the inventor, PALMER, Andreas
VIII-2-1(i)x)	This declaration is made for the purposes of:	all designations except the designation of the United States of America

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VIII-4-1	<p><b>Declaration: Inventorship (only for the purposes of the designation of the United States of America)</b> Declaration of Inventorship (Rules 4.17(iv) and 51bis.1(a)(iv)) for the purposes of the designation of the United States of America:</p>	<p>I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.</p> <p>This declaration is directed to the international application of which it forms a part (if filing declaration with application).</p> <p>I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.</p> <p>I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications", by application number, country or Member of the World Trade Organization, day, month, and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.</p>
VIII-4-1-1	Prior applications:	

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		<p>I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.</p> <p>I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.</p>
VIII-4-1-1-1	Name (LAST, First)	PALMER, Andreas
VIII-4-1-1-2	Residence: (city and either US State, if applicable, or country)	Konstanz, Germany
VIII-4-1-1-3	Mailing address:	Pirminweg 1a D-78467 Konstanz Germany
VIII-4-1-1-4	Citizenship:	DE
VIII-4-1-1-5	Inventor's Signature: (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)	/Andreas PALMER/
VIII-4-1-1-6	Date: (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)	18 March 2005 (18.03.2005)

**PCT REQUEST**

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<b>IX</b>	<b>Check list</b>	<b>number of sheets</b>	<b>electronic file(s) attached</b>
IX-1	Request (including declaration sheets)	<b>8</b>	✓
IX-2	Description	<b>42</b>	✓
IX-3	Claims	<b>8</b>	✓
IX-4	Abstract	<b>1</b>	✓
IX-5	Drawings	<b>0</b>	✓
IX-7	<b>TOTAL</b>	<b>59</b>	
	<b>Accompanying Items</b>	<b>paper document(s) attached</b>	<b>electronic file(s) attached</b>
IX-8	Fee calculation sheet	-	✓
IX-11	Copy of general power of attorney	-	<b>reference no. 026160.2</b>
IX-17	PCT-SAFE physical media	-	-
IX-19	Figure of the drawings which should accompany the abstract		
IX-20	Language of filing of the international application	<b>English</b>	
X-1	Signature of applicant, agent or common representative	<b>/Andreas PALMER/</b>	
X-1-1	Name (LAST, First)	<b>PALMER, Andreas</b>	
X-1-2	Name of signatory		
X-1-3	Capacity		
X-2	Signature of applicant, agent or common representative	<b>(PKCS7 Digital Signature)</b>	
X-2-1	Name (LAST, First)	<b>WOLF, Ulrich</b>	
X-2-2	Name of signatory		
X-2-3	Capacity		

**PCT REQUEST**

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**FOR RECEIVING OFFICE USE ONLY**

10-1	Date of actual receipt of the purported international application	
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/EP
10-6	Transmittal of search copy delayed until search fee is paid	

**FOR INTERNATIONAL BUREAU USE ONLY**

11-1	Date of receipt of the record copy by the International Bureau	
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**PCT (ANNEX - FEE CALCULATION SHEET)**

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(This sheet is not part of and does not count as a sheet of the international application)

<b>0</b>	<b>For receiving Office use only</b>		
<b>0-1</b>	International Application No.		
<b>0-2</b>	Date stamp of the receiving Office		
<b>0-4</b>	<b>Form PCT/RO/101 (Annex) PCT Fee Calculation Sheet</b>		
<b>0-4-1</b>	Prepared Using	<b>PCT Online Filing Version 3.50 (Build 0001.162)</b>	
<b>0-9</b>	Applicant's or agent's file reference		<b>1243WOORD01</b>
<b>2</b>	Applicant		<b>ALTANA PHARMA AG</b>
<b>12</b>	<b>Calculation of prescribed fees</b>	fee amount/multiplier	Total amounts (EUR)
12-1	Transmittal fee <b>T</b>	⇒	<b>100</b>
12-2-1	Search fee <b>S</b>	⇒	<b>1550</b>
12-2-2	International search to be carried out by	<b>EP</b>	
12-3	International filing fee (first 30 sheets) <b>i1</b>	<b>902</b>	
12-4	Remaining sheets	<b>29</b>	
12-5	Additional amount <b>(X)</b>	<b>10</b>	
12-6	Total additional amount <b>i2</b>	<b>290</b>	
12-7	<b>i1 + i2 =</b> <b>i</b>	<b>1192</b>	
12-12	Electronic Filing reduction (Full) <b>R</b>	<b>0</b>	
12-13	Total International filing fee (i-R) <b>I</b>	⇒	<b>1192</b>
12-14	Fee for priority document		
	Number of priority documents requested	<b>1</b>	
12-15	Fee per document <b>(X)</b>	<b>30</b>	
12-16	Total priority document fee: <b>P</b>	⇒	<b>30</b>
<b>12-17</b>	<b>TOTAL FEES PAYABLE (T+S+I+P)</b>	⇒	<b>2872</b>
<b>12-19</b>	Mode of payment	<b>authorization to charge deposit account</b>	
<b>12-20</b>	Deposit account instructions		
	The receiving Office	<b>European Patent Office (EPO) (RO/EP)</b>	
12-20-1	Authorization to charge the total fees indicated above.	✓	
12-20-2	Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.	✓	
12-20-3	Authorization to charge the fee for priority document.	✓	
<b>12-21</b>	Deposit account No.	<b>28000022</b>	
<b>12-22</b>	Date	<b>18 March 2005 (18.03.2005)</b>	
<b>12-23</b>	Name and signature	<b>ALTANA PHARMA AG,</b>  <b>/Ulrich WOLF/</b>	

**PCT (ANNEX - FEE CALCULATION SHEET)**

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(This sheet is not part of and does not count as a sheet of the international application)

**REMARKS**

13-1-1	Applicant Remarks	It seems to me that the Print out (Original in electronic form) does not reflect the data that have been entered into PCT online Filing Software Version 3.50 (Build 0001.162). The following was intended: PALMER, Andreas is applicant and inventor. He is applicant for US only and inventor for all designated states. BREHM, Christof; CHIESA, M. Vittoria; ZIMMERMANN, Peter Jan; BUHR, Wilm; SIMON, Wolfgang-Alexander; KROMER, Wolfgang; POSTIUS, Stefan are inventors only. They are inventors for all designated states with the exception of US, CA and PH.
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